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Items for discussion and decision

National quality assurance frameworks

Report of the Secretary-General

Summary

The present report was prepared at the request of the Statistical Commission at its forty-first and forty-second sessions (see E/2010/24, chap. I.B, decision 41/101, and E/2011/24, chap. I.B, decision 42/115). The report describes the work carried out by the Expert Group on National Quality Assurance Frameworks, in line with the mandate given by the Commission, namely, (a) to develop a generic national quality assurance framework template while taking the existing quality frameworks into account and establishing a mapping to them; (b) to compile a set of guidelines to accompany the template; (c) to compile a glossary of the main quality-related terms; (d) to build up an online inventory of documents and links to national and international quality tools and references; and (e) to enhance and update the website on national quality assurance frameworks maintained by the United Nations Statistics Division.

A separate background document, containing the generic national quality assurance framework template and its accompanying guidelines, lists of tools and references, detailed mapping showing the correspondence to several existing quality frameworks, and links to the online glossary and the National Quality Assurance Frameworks website, is also being submitted to the Commission.

The Commission is invited to endorse the generic national quality assurance framework template and to express its views on the guidelines, glossary, tools and references and website.

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I. Introduction

1. At its forty-first session, the Statistical Commission had before it a report by Statistics Canada which contained a programme review on national quality assurance frameworks (E/CN.3/2010/2). The report, which was based on a global consultation process, promoted the use of a national quality assurance framework by national statistical offices and described its basic elements. It discussed three different templates for such a framework and then invited an Expert Group (decision 41/101) to take up the task of developing one generic framework template to assist countries that may wish to formulate their own national quality assurance framework or further enhance an existing one. A generic national quality assurance framework template, accompanied by guidelines on how to develop such a framework, was recognized as being more realistic than the development of a generic one-size-fits-all framework, which was considered to be impracticable.

II. Establishment of the Expert Group on National Quality Assurance Frameworks and its programme of work

A. Members of the Expert Group

2. The Expert Group on National Quality Assurance Frameworks was constituted in August 2010. Representatives of the following 17 countries were invited to serve as members of the Expert Group: Canada, Chile, China, Colombia, Egypt, France, Indonesia, Italy, Jamaica, Japan, Mexico, the Niger, Norway, Qatar, South Africa, Switzerland and Ukraine. The Statistical Office of the European Communities (Eurostat), the International Monetary Fund (IMF), the World Bank, the Economic Commission for Africa (ECA), the Economic Commission for Europe (ECE), the Economic Commission for Latin America and the Caribbean (ECLAC), the Economic and Social Commission for Asia and the Pacific (ESCAP) and the Economic and Social Commission for Western Asia (ESCWA) were invited to serve as observers. South Africa agreed to serve as the Chair of the Expert Group, with the United Nations Statistics Division acting as the secretariat.

B. Programme of work

3. In accordance with its terms of reference, the Expert Group's work was carried out entirely through e-mail exchanges and telephone conferences during the early stages. A progress report was submitted to the Statistical Commission at its forty-second session (E/CN.3/2011/33) and summarized the first round of activities and discussions undertaken by the Expert Group, namely, a review of the members' experiences with the development or use of a national quality assurance framework; the problems and obstacles experienced or anticipated in developing and implementing a national quality assurance framework; and opinions from a country perspective on the main needs and priorities vis-à-vis the development and implementation of a national quality assurance framework.

4. The Commission took note of the Expert Group's programme of work for 2010-2011 as presented in the progress report, which contained the following specific elements:

(a) Development of a generic national quality assurance framework template;

(b) Mapping of existing frameworks to the template;

(c) Development of guidelines to accompany the template;

(d) Identification and review of current quality practices and existing quality mechanisms and tools and inclusion of additional links and documentation thereon at the National Quality Assurance Frameworks website;[1]

(e) Review and clarification of currently used quality terminology and the development of a glossary of quality-related terms;

(f) Development of training materials to be used in training;

(g) Identification of practices that constitute desirable minimum standards;

(h) Drafting of guidelines with best practices, examples and practical measurable indicators.

5. While the initial work of the Expert Group was successfully conducted via e-mail exchanges and telephone conferences, it became apparent that some discussions and decisions needed to be held within a meeting setting that was actual rather than "virtual". Consequently, a meeting of the Expert Group was organized by the Statistics Division, in New York from 28 to 30 September 2011 during which member participants from eight countries, three international agencies and organizations, one United Nations regional commission and the Statistics Division focused, in particular, on the following issues: (a) finalization of the wording and order of the components of the generic national quality assurance framework template; (b) review of the mapping of the National Quality Assurance Frameworks template to other quality frameworks; and (c) agreement on the content of the set of guidelines to accompany the template. Section III below provides a comprehensive and detailed account of the various work elements of the Expert Group as listed in paragraph 4 above.

III. Supporting elements to design a national quality assurance framework

A. The generic national quality assurance framework template

6. The generic national quality assurance framework template developed by the Expert Group is presented in annex I. It is divided into five sections: (a) quality context; (b) quality concepts and frameworks; (c) quality assurance guidelines; (d) quality assessment and reporting; and (e) quality and other management frameworks. The main focus of the work of the Expert Group was on the sections on quality concepts and frameworks and quality assurance.

[1] The National Quality Assurance Frameworks website, maintained by the Statistics Division, can be accessed at http://unstats.un.org/unsd/dnss/QualityNQAF/nqaf.aspx.

7. The content of the template was discussed in depth both during e-mail exchanges and at the meeting. Based initially on the three proposals made in the Statistics Canada report to the Statistical Commission at its forty-first session, it ended up incorporating the elements of all three proposals, with some additional elements and reorganization, as agreed upon by the Expert Group members, so as to be suitable for a broad range of countries.

8. The application or implementation of the template is intended to be voluntary, that is to say, the template is not meant to be prescriptive or viewed as a necessary replacement for other quality frameworks that are already adopted or in use by a country's national statistical office. The National Quality Assurance Frameworks template is intended to be a tool for providing the general structure within which individual country-specific national quality assurance frameworks can be developed.

9. Pursuant to paragraph (c) of Statistical Commission decision 41/101, the framework template was designed to be sufficiently flexible to permit national circumstances to be taken into consideration by countries that may choose to apply it. In this regard, the components of the template that might be most applicable and relevant to one country could have a quite different impact on another, depending upon such factors as stage of development, available resources, the institutional environment within which the country operates, and its current most pressing concerns, from a quality policy perspective.

10. National statistical offices are not expected to automatically apply all of the components of the National Quality Assurance Frameworks template, nor is it assumed that the selected elements and mechanisms set out in the accompanying guidelines are exhaustive or could apply to all national statistical offices uniformly and in the same way. Nonetheless, the Expert Group agreed that this template constitutes a useful organizing framework, a single structure within which to record and reference the full range of current quality concepts, policies and practices. By using the recommended structure as a starting point, statistical offices are encouraged to determine by themselves which facets are most appropriate to their specific situations and to build accordingly a framework to fit their needs. Creation of a framework by a national agency for a national agency was the concept guiding the work of the Expert Group.

B. The mapping of the National Quality Assurance Frameworks template to existing frameworks

11. For the development of the National Quality Assurance Frameworks template, the Expert Group, as its point of departure and as recommended by the Statistical Commission, made use of the existing quality frameworks, with which it aligned the National Quality Assurance Frameworks template to the extent possible, so as not to "reinvent the wheel". In the design of the template, the principle of correspondence to the European Statistics Code of Practice, the IMF Data Quality Assessment Framework, the Statistics Canada Quality Assurance Framework and the Proposal for the Structure of a Regional Code of Good Statistical Practice for Latin America and the Caribbean was adhered to as far as possible. The mapping of the National Quality Assurance Frameworks template to each of the above-mentioned frameworks which was carried out by the Expert Group will provide assistance to national statistical offices in harmonizing their quality assurance frameworks with

those of regional or international organizations. A summary correspondence table is presented in annex II to the present document and more detailed information is available on the National Quality Assurance Frameworks website.[1]

C. Overview of the National Quality Assurance Frameworks template guidelines

12. The detailed guidelines designed to accompany each element of the template are, owing to their extensiveness, contained in a background document. The guidelines contain general explanatory texts for the components of sections 1, 2, 4 and 5 of the template. The detailed descriptions provided for the template's section 3, the so-called numbered NQAF lines, namely, NQAF1 to NQAF19 (see annex I) constitute the core of the guidelines. These lines basically correspond to the "principles" in the European Statistics Code of Practice and the "elements" in the IMF Data Quality Assessment Framework. For each numbered NQAF line, a description, followed by elements to be assured (corresponding to the "indicators" used to reflect good practice in other frameworks), as well as supporting mechanisms, are included. When necessary, the same elements and mechanisms have been intentionally repeated across a number of different National Quality Assurance Frameworks lines, so as to underscore the multidimensional aspect of quality and to allow readers to use parts of the framework independently.

13. In respect of designing or reviewing a database, output or specific statistics, data providers who are designing a statistical collection or product that is to be fit for its purpose should find going through the set of questions posed in the lists of elements helpful, as should other readers who are attempting to make informed decisions about whether the statistics produced are fit for use, or are of an acceptable level of quality for their purposes.

14. In order to provide more information and to help the reader "zero in on" additional guidance on the individual NQAF lines, a list of selected references and nationally and internationally developed tools specific to each of the 19 NQAF lines is included in an annex to the guidelines. This list is a subset of the reference list presented alphabetically by country and organization on the National Quality Assurance Frameworks website.

D. United Nations National Quality Assurance Frameworks website

15. As recommended by the Statistical Commission, the Statistics Division continued working on upgrading its quality assurance website, which was developed to serve as a platform for the exchange of information and experiences on national and international quality assurance work. The Chair and the secretariat invited the Expert Group members to continue to provide, on an ongoing basis, new information as it became available as well as additional links and documents on national and international quality work to be included on the website. The Statistics Division collected and posted information on other countries and organizations gathered from the Internet and aims to check regularly for updates. The information on nationally and internationally developed data quality references, arranged by country or organization, is available at the Frameworks website.[1] The future

updating of the website's quality-related references and links will remain part of the work programme of the Statistics Division.

E. Glossary of quality-related terms

16. The Expert Group compiled an online glossary of quality-related terms, whose main source was the Statistical Data and Metadata Exchange (SDMX) Metadata Common Vocabulary, which had been developed by a partnership of international organizations. Since the SDMX Metadata Common Vocabulary is an agreed global standard, preference was given to its definitions in cases where several definitions were available for the same term. In addition to the definition of each term, the National Quality Assurance Frameworks Glossary includes information, whenever possible, in the "context" field so as to provide additional explanations or other useful information that could contribute to an understanding of the concepts. The source of the definition and a hyperlink thereto, when available, are also included. The Glossary is available at the Frameworks website.[1]

17. The terms included in the National Quality Assurance Frameworks Glossary are primarily those that appear in the template and the guidelines, especially those that are mentioned in the NQAF lines, or are directly related to them. The Glossary's coverage of terms is not exhaustive, nor is it intended to be. It will continue to be updated by the Statistics Division when additional new and relevant information is provided or identified.

F. Future challenges

18. One of the issues raised by the Statistical Commission entailed the "identification of practices that constituted desirable minimum standards". Having discussed this topic, the Expert Group came to the conclusion that the identification of "minimum standards" would be premature. The institutional arrangements and experiences of countries are too different to allow for meaningful recommendations at this point in time. A basic process of harmonization of tools, and even of language, is considered to be a prerequisite. Thus, the Expert Group focused its work on developing the common framework template and the tools described above. It is hoped that this will enable countries to initiate a process of harmonization of practice.

19. Similarly, the development of practical measurable quality indicators was considered infeasible at this point. However, it should be noted that the detailed supporting questions contained in the guidelines do allow for a comprehensive qualitative description of the degree of quality of a given statistical process or product.

20. Finally, the development of specific training materials based on the tools developed and described above is a challenge for the immediate future. This exercise could and should build on existing materials available at the national and international levels. The comprehensive inventory of materials as contained at the United Nations National Quality Assurance Frameworks website will be a valuable starting point. As a matter of practicality, member countries continue to be encouraged to share their national documentation and experiences as generously as possible.

IV. Global consultation on the National Quality Assurance Frameworks template and guidelines

21. After the preliminary completion of the work of the Expert Group, following the September 2011 meeting in New York, a global consultation process was initiated in November 2011 to solicit comments and feedback from senior managers of national statistical offices and international and regional organizations, with a view to assisting the Expert Group in finalizing the documentation to be submitted to the Statistical Commission. A global consultation document containing the generic national quality assurance framework template and its accompanying guidelines, the list of tools and references, and detailed mapping exhibiting the correspondences to existing quality frameworks, namely, the IMF Data Quality Assessment Framework, the European Statistics Code of Practice, the Statistics Canada Quality Assurance Framework, and the Proposal for the Structure of a Regional Code of Good Statistical Practice for Latin America and the Caribbean, was posted on the National Quality Assurance Framework website. The online glossary and inventory of nationally and internationally developed quality-related references and links are posted on the website as well.

22. Twenty-six countries sent comments during the global consultation round. Many countries explicitly expressed their gratitude to the Expert Group for addressing this important issue. They stressed that it was an opportune moment to undertake this useful exercise, as many countries were in the process of developing their own frameworks. Commentators noted with particular satisfaction that the Expert Group had made the connections to existing frameworks very clear and transparent. A number of detailed technical comments and suggestions were made which the Expert Group had taken into consideration at the time of the writing of the present report. Some countries commenting on the work of the Expert Group suggested that additional work might be needed, in particular on giving countries practical guidelines, possibly in the form of a manual, regarding the implementation of the national quality assurance framework. The background document to be submitted to the Statistical Commission will reflect consideration of the comments received during the global consultation process.

V. Points for discussion

23. **The Statistical Commission is invited to review and endorse the generic national quality assurance framework template and to express its views on the template's value, for countries that elect to use it, as a tool for formulating and operationalizing national quality assurance frameworks of their own. The Commission is also invited to comment on the guidelines, glossary, mapping, tools and references, and on the United Nations National Quality Assurance Frameworks website, and to offer guidance on possible future directions.**

Annex I

Template for a generic national quality assurance framework (NQAF), as developed by the Expert Group on National Quality Assurance Frameworks

1. Quality context

1a. Circumstances and key issues driving the need for quality management

1b. Benefits and challenges

1c. Relationship to other statistical agency policies, strategies and frameworks and evolution over time

2. Quality concepts and frameworks

2a. Concepts and terminology

2b. Mapping to existing frameworks

3. Quality assurance guidelines

3a. Managing the statistical system

[NQAF 1] Coordinating the national statistical system

[NQAF 2] Managing relationships with data users and data providers

[NQAF 3] Managing statistical standards

3b. Managing the institutional environment

[NQAF 4] Assuring professional independence

[NQAF 5] Assuring impartiality and objectivity

[NQAF 6] Assuring transparency

[NQAF 7] Assuring statistical confidentiality and security

[NQAF 8] Assuring the quality commitment

[NQAF 9] Assuring adequacy of resources

3c. Managing statistical processes

[NQAF 10] Assuring methodological soundness

[NQAF 11] Assuring cost-effectiveness

[NQAF 12] Assuring soundness of implementation

[NQAF 13] Managing the respondent burden

3d. Managing statistical outputs

[NQAF 14] Assuring relevance

[NQAF 15] Assuring accuracy and reliability

[NQAF 16] Assuring timeliness and punctuality

[NQAF 17] Assuring accessibility and clarity

[NQAF 18] Assuring coherence and comparability

[NQAF 19] Managing metadata

4. Quality assessment and reporting

4a. Measuring product and process quality: use of quality indicators, quality targets and process variables and descriptions

4b. Communicating about quality: quality reports

4c. Obtaining feedback from users

4d. Conducting assessments; labelling and certification

4e. Assuring continuous quality improvement

5. Quality and other management frameworks

5a. Performance management

5b. Resource management

5c. Ethical standards

5d. Continuous improvement

5e. Governance

Annex II

Summary mapping of the generic national quality assurance framework template (section 3) to existing frameworks

Correspondence between the generic national quality assurance framework template and the European Statistics Code of Practice, the IMF Data Quality Assessment Framework, the Proposal for the Structure of a Regional Code of Good Statistical Practice for Latin America and the Caribbean, and the Statistics Canada Quality Assurance Framework

Generic national quality assurance framework template (NQAF)		*European Statistics Code of Practice*		*International Monetary Fund Data Quality Assessment Framework*	*Latin America and the Caribbean Regional Code of Good Statistical Practice*		*Statistics Canada Quality Assurance Framework*
3a.	**Managing the statistical system**						
NQAF1.	Coordinating the national statistical system	CoP. 2.1		DQAF. 0.1.1	LAC. 2.1	LAC. 3.1	CAN 2
		CoP. 2.2		DQAF. 0.1.2	LAC. 2.2	LAC. 3.2	
		CoP. 2.3			LAC. 2.3	LAC. 3.3	
		CoP. 3.3			LAC. 2.4		
		CoP. 3.4					
NQAF2.	Managing relationships with data users and data providers	CoP. 2.3	CoP 9.6	DQAF. 5.3.1	LAC. 2.4		CAN 1
		CoP.7.7	CoP 11.1		LAC. 3.3		
		CoP. 9.1	CoP 11.2				
		CoP. 9.2	CoP 11.3				
		CoP. 9.3	CoP 15.6				
		CoP. 9.4	CoP 15.7				
		CoP. 9.5					
NQAF3.	Managing statistical standards	CoP. 7.1		DQAF. 3.1.2			CAN 11
		CoP. 7.2					
		CoP. 10.4					
		CoP. 14.3					
		CoP. 15.5					
3b.	**Managing the institutional environment**						
NQAF4.	Assuring professional independence	CoP. 1.1	CoP. 1.5	DQAF. 1.1.2	LAC. 1.1	LAC. 1.5	CAN 12
		CoP. 1.2	CoP. 1.6	DQAF. 1.1.3	LAC. 1.2	LAC. 1.6	
		CoP. 1.3	CoP. 1.7		LAC. 1.3	LAC. 1.7	
		CoP. 1.4	CoP. 1.8		LAC. 1.4		
NQAF5.	Assuring impartiality and objectivity	CoP. 6.1	CoP. 6.5	DQAF. 1.1.1	LAC. 7.1		CAN 12
		CoP. 6.2	CoP. 6.6		LAC. 7.3		
		CoP. 6.3	CoP. 6.7		LAC. 7.4		
		CoP. 6.4	CoP. 6.8		LAC. 7.5		

Generic national quality assurance framework template (NQAF)		*European Statistics Code of Practice*		*International Monetary Fund Data Quality Assessment Framework*	*Latin America and the Caribbean Regional Code of Good Statistical Practice*		*Statistics Canada Quality Assurance Framework*
NQAF6.	Assuring transparency	CoP. 6.3		DQAF. 1.2.1	LAC. 7.1		CAN 12
		CoP. 6.4		DQAF. 1.2.2	LAC. 7.2		
		CoP. 6.5		DQAF. 1.2.3	LAC. 10.5		
		CoP. 6.6		DQAF. 1.2.4	LAC. 15.3		
		CoP. 8.6					
NQAF7.	Assuring statistical confidentiality and security	CoP. 5.1	CoP. 5.4	DQAF. 0.1.3	LAC. 4.1	LAC. 4.5	CAN 12
		CoP. 5.2	CoP. 5.5		LAC. 4.2	LAC. 4.6	
		CoP. 5.3	CoP. 5.6		LAC. 4.3	LAC. 4.7	
					LAC. 4.4		
NQAF8.	Assuring the quality commitment	CoP. 4.1		DQAF. 0.4.1	LAC. 6.1	LAC. 6.5	CAN 12
		CoP. 4.2		DQAF. 0.4.2	LAC. 6.2	LAC. 8.1	
		CoP. 4.3		DQAF. 0.4.3	LAC. 6.3	LAC. 8.2	
		CoP. 4.4			LAC. 6.4	LAC. 8.3	
NQAF9.	Assuring adequacy of resources	CoP. 3.1		DQAF. 0.2.1	LAC. 5.1		CAN 12
		CoP. 3.2			LAC. 5.2		
		CoP. 3.3			LAC. 5.3		
		CoP. 3.4			LAC. 5.4		
3c.	**Managing statistical processes**						
NQAF10.	Assuring methodological soundness	CoP. 7.1	CoP. 7.7	DQAF. 2.1	LAC. 9.1		CAN 4
		CoP. 7.2	CoP. 8.2	DQAF. 2.2	LAC. 9.2		CAN 11
		CoP. 7.3	CoP. 8.3	DQAF. 2.3	LAC. 9.3		
		CoP. 7.4	CoP. 8.4	DQAF. 2.4	LAC. 9.4		
		CoP. 7.5	CoP. 8.5		LAC. 9.5		
		CoP. 7.6	CoP. 8.6				
NQAF11.	Assuring cost-effectiveness	CoP. 10.1		DQAF. 0.2.2	LAC. 12.1		
		CoP. 10.2			LAC. 12.2		
		CoP. 10.3			LAC. 12.3		
		CoP. 10.4			LAC. 12.4		
NQAF12.	Assuring soundness of implementation	CoP. 8.1	CoP. 8.5	DQAF. 3.1.1	LAC. 10.1	LAC. 10.4	
		CoP. 8.2	CoP. 8.7	DQAF. 3.3.1	LAC. 10.2	LAC. 10.5	
		CoP. 8.3	CoP. 8.8	DQAF. 3.3.2	LAC. 10.3	LAC. 10.6	
		CoP. 8.4	CoP. 8.9				
NQAF13.	Managing the respondent burden	CoP. 8.7	CoP. 9.3	DQAF. 0.1.4	LAC. 11.1	LAC. 11.4	CAN 10
		CoP. 8.8	CoP. 9.4		LAC. 11.2	LAC. 11.5	
		CoP. 8.9	CoP. 9.5		LAC. 11.3		
		CoP. 9.1	CoP. 9.6				
		CoP. 9.2					

Generic national quality assurance framework template (NQAF)		*European Statistics Code of Practice*		*International Monetary Fund Data Quality Assessment Framework*		*Latin America and the Caribbean Regional Code of Good Statistical Practice*		*Statistics Canada Quality Assurance Framework*
3d.	**Managing statistical outputs**							
NQAF14.	Assuring relevance	CoP. 11.1		DQAF. 0.3.1		LAC. 13.1		CAN 3
		CoP. 11.2				LAC. 13.2		
		CoP. 11.3				LAC. 13.3		
						LAC. 13.4		
NQAF15.	Assuring accuracy and reliability	CoP. 8.6		DQAF. 3.2.1	DQAF. 3.5.1	LAC. 10.5	LAC. 14.4	CAN 4
		CoP. 12.1		DQAF. 3.4.1	DQAF. 4.3.1	LAC. 14.1	LAC. 14.5	
		CoP. 12.2		DQAF. 3.4.2	DQAF. 4.3.2	LAC. 14.2		
		CoP. 12.3		DQAF. 3.4.3	DQAF. 4.3.3	LAC. 14.3		
NQAF16.	Assuring timeliness and punctuality	CoP. 13.1		DQAF. 3.1.3		LAC. 15.1		CAN 5
		CoP. 13.2		DQAF. 4.1.1		LAC. 15.2		
		CoP. 13.3		DQAF. 4.1.2		LAC. 15.3		
		CoP. 13.4		DQAF. 5.1.3		LAC. 15.4		
		CoP. 13.5				LAC. 15.5		
NQAF17.	Assuring accessibility and clarity	CoP. 15.1	CoP. 15.5	DQAF. 5.1.1	DQAF. 5.2.1	LAC. 6.3	LAC. 17.3	CAN 6
		CoP. 15.2	CoP. 15.6	DQAF. 5.1.2	DQAF. 5.2.2	LAC. 7.4	LAC. 17.4	CAN 7
		CoP. 15.3	CoP. 15.7	DQAF. 5.1.4	DQAF. 5.3.2	LAC. 7.5	LAC. 17.5	
		CoP. 15.4		DQAF. 5.1.5		LAC. 17.1	LAC. 17.6	
						LAC. 17.2	LAC. 17.7	
NQAF18.	Assuring coherence and comparability	CoP. 14.1		DQAF. 4.2.1		LAC. 16.1		CAN 8
		CoP. 14.2		DQAF. 4.2.2		LAC. 16.2		
		CoP. 14.3		DQAF. 4.2.3		LAC. 16.3		
		CoP. 14.4				LAC. 16.4		
		CoP. 14.5						
NQAF19.	Managing metadata	CoP. 15.1						CAN 13
		CoP. 15.5						